Tioga
ENVIRONMENTAL
CONSULTANTS

October 26, 2017

Mr. Anthony Krone
Risk Manager
Shelby County Schools
160 South Hollywood – Room 152
Memphis, Tennessee 38112

RE: Lead in Drinking Water Sampling
Riverwood Elementary School
1330 Stern Lane
Memphis, Tennessee
Tioga Project No.: 24816.03

Dear Mr. Krone,

At the request of Shelby County Schools (the Client), Tioga Environmental Consultants (Tioga) performed sampling of drinking water sources at the above referenced school for laboratory analysis of total lead concentrations. At the request of the Client, sampling was conducted on potable water sources in the kitchen and water fountains throughout the first and second floors of the school. Sampling was conducted early in the morning, before any potable water sources had been used for the day and prior to the arrival of any students or faculty.

On October 10, 2017, Tioga representative Eric Davis arrived onsite and was escorted through the building by Shelby County Schools risk management personnel. First-draw potable water samples were collected in accordance with the Environmental Protection Agency (EPA) regulations codified in 40 CFR 141.86, and were documented and transferred under chain-of-custody protocol to Waypoint Analytical Laboratories in Memphis, Tennessee for analysis of total lead content.

Results Based on Laboratory Analysis:
Table 1 on the following page summarizes the sampling locations, laboratory analytical results, and EPA action level for lead in drinking water. Sample results with a "<" symbol did not contain lead content above the laboratory detection limit.

357 North Main Street, Memphis, TN 38103 | Phone: 901.791.2432 | Fax: 901.791.2442 | tiogaenv.com

Table 1
Summary of Analytical Results
Riverwood Elementary School
October 10, 2017

Sample ID	Sample Location	Total Lead (µg/L)	EPA Action Level (µg/L)
76-1	Kitchen Sink	0.530	15
76-2	Cafeteria Cooler	<0.500	
76-3	Cooler Across from A119	<0.500	
76-4	Cooler Across from B117	<0.500	
76-5	Cooler Across from E216	<0.500	
76-6	Cooler Across from D211	<0.500	

(µg/L) = Micrograms of lead per liter of water (parts per billion)

A review of the laboratory analytical results of the water samples collected revealed that no water samples collected during this sampling event exhibited total lead levels above the EPA action level for drinking water.

Recommendations:

Based upon the laboratory analytical results of the six potable water samples collected from Riverwood Elementary School, Tioga has found no evidence of elevated lead concentrations above the EPA action level for drinking water, and therefore makes no recommendation for further testing at this site.

Limitations

Potable water sources with elevated lead levels may potentially be present in areas of the property that are not addressed with this report. This investigation only included the potable water sources specifically addressed.

We appreciate the opportunity to provide you with this service. Should you have any questions regarding this report, please contact me at (901) 791-2432.

Sincerely,

TIOGA ENVIRONMENTAL CONSULTANTS, INC.

Margaret F. Strom, QEP, CHMM
President

Enclosure: (1) Laboratory Analytical Report

Waypoint ANALYTICAL

2790 Whitten Road, Memphis, TN 38133
Main 901.213.2400 ° Fax 901.213.2440
www.waypointanalytical.com

10/20/2017

Tioga Environmental Consultants
Ms. Maggie Strom
357 N. Main Street
Memphis, TN, 38103

Ref: Analytical Testing
Lab Report Number: 17-285-0241
Client Project Description: Site 76
Project #24816.03

Dear Ms. Maggie Strom:
Waypoint Analytical, Inc. received sample(s) on 10/11/2017 for the analyses presented in the following report.

The above referenced project has been analyzed per your instructions. The analyses were performed in accordance with the applicable analytical method.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, method validations, instrumentation maintenance and calibration for all parameters (NELAP and non-NELAP) were performed in accordance with guidelines established by the USEPA (including 40 CFR 136 Method Update Rule May 2012) and NELAC unless otherwise indicated. Any parameter for which the laboratory is not officially NELAP accredited is indicated by a '~' symbol. These are not included in the scope because NELAP accreditation is either not available or has not been applied for. Additional certifications may be held/are available for parameters, where NELAP accreditation is not required or applicable. A full list of certifications is available upon request.

Certain parameters (chlorine, pH, dissolved oxygen, sulfite...) are required to be analyzed within 15 minutes of sampling. Usually, but not always, any field parameter analyzed at the laboratory is outside of this holding time. Refer to sample analysis time for confirmation of holding time compliance.

The results are shown on the attached Report of Analysis(s). Results for solid matrices are reported on an as-received basis unless otherwise indicated. This report shall not be reproduced except in full and relates only to the samples included in this report.

Please do not hesitate to contact me or client services if you have any questions or need additional information.

Sincerely,

Andy Parrish
Project Manager

Laboratory's liability in any claim relating to analyses performed shall be limited to, at laboratory's option, repeating the analysis in question at laboratory's expense, or the refund of the charges paid for performance of said analysis.

Alabama	#40750	Louisiana	#04015	VA NELAP	#460181	Texas	#T104704180-11-6	Arkansas	#88-0650
Mississippi		California	#2904	NC	#415	Oklahoma	#9311	Virginia	#00106
Kentucky	#90047	Tennessee	#TN02027	EPA	#TN00012	Kentucky UST	#41		

Waypoint ANALYTICAL

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06510
Tioga Environmental Consultants
Ms. Maggie Strom
357 N. Main Street
Memphis , TN 38103

Project Information : Site 76
Project #24816.03

Report Date : 10/20/2017

Report Number : **17-285-0241**

REPORT OF ANALYSIS

Received : 10/11/2017

Lab No : **91142** Matrix: **Aqueous**
Sample ID : **76-1** Sampled: **10/10/2017 11:22**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	**0.530**	µg/L	0.500	1	10/18/17 18:39	BKN	EPA-200.8

Lab No : **91143** Matrix: **Aqueous**
Sample ID : **76-2** Sampled: **10/10/2017 11:23**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	<0.500	µg/L	0.500	1	10/18/17 18:44	BKN	EPA-200.8

Lab No : **91144** Matrix: **Aqueous**
Sample ID : **76-3** Sampled: **10/10/2017 11:26**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	<0.500	µg/L	0.500	1	10/18/17 18:45	BKN	EPA-200.8

Lab No : **91145** Matrix: **Aqueous**
Sample ID : **76-4** Sampled: **10/10/2017 11:30**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	<0.500	µg/L	0.500	1	10/18/17 18:47	BKN	EPA-200.8

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

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06510
Tioga Environmental Consultants
Ms. Maggie Strom
357 N. Main Street
Memphis , TN 38103

Project Information : Site 76
Project #24816.03

Report Date : 10/20/2017

Report Number : **17-285-0241**

REPORT OF ANALYSIS

Received : 10/11/2017

Lab No : **91146**
Sample ID : **76-5**

Matrix: **Aqueous**
Sampled: **10/10/2017 11:32**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	<0.500	µg/L	0.500	1	10/18/17 18:48	BKN	EPA-200.8

Lab No : **91147**
Sample ID : **76-6**

Matrix: **Aqueous**
Sampled: **10/10/2017 11:35**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	<0.500	µg/L	0.500	1	10/18/17 18:49	BKN	EPA-200.8

Qualifiers/ Definitions DF Dilution Factor MQL Method Quantitation Limit

Waypoint ANALYTICAL

2790 Whitten Road, Memphis, TN 38133
Main 901.213.2400 ° Fax 901.213.2440
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Cooler Receipt Form

Customer Number: **06510**
Customer Name: **Tioga Environmental Consultants**
Report Number: **17-285-0241**

Shipping Method

○ Fed Ex	○ US Postal	○ Lab	○ Other :	
○ UPS	● Client	○ Courier	Thermometer ID:	NA

Shipping container/cooler uncompromised?	● Yes	○ No	
Number of coolers received	1		
Custody seals intact on shipping container/cooler?	○ Yes	○ No	● Not Required
Custody seals intact on sample bottles?	○ Yes	○ No	● Not Required
Chain of Custody (COC) present?	● Yes	○ No	
COC agrees with sample label(s)?	● Yes	○ No	
COC properly completed	● Yes	○ No	
Samples in proper containers?	● Yes	○ No	
Sample containers intact?	● Yes	○ No	
Sufficient sample volume for indicated test(s)?	● Yes	○ No	
All samples received within holding time?	● Yes	○ No	
Cooler temperature in compliance?	● Yes	○ No	
Cooler/Samples arrived at the laboratory on ice. Samples were considered acceptable as cooling process had begun.	○ Yes	● No	
Water - Sample containers properly preserved	● Yes	○ No	○ N/A
Water - VOA vials free of headspace	○ Yes	○ No	● N/A
Trip Blanks received with VOAs	○ Yes	○ No	● N/A
Soil VOA method 5035 – compliance criteria met	○ Yes	○ No	● N/A

☐ High concentration container (48 hr)
☐ Low concentration EnCore samplers (48 hr)
☐ High concentration pre-weighed (methanol -14 d)
☐ Low conc pre-weighed vials (Sod Bis -14 d)

Special precautions or instructions included?	○ Yes	● No

Comments:

Signature: Danyale Love Date & Time: 10/12/2017 09:34:38

Client Name/Address	Client Project Manager/Contact	Billing Information	For Laboratory Use Only
Tioga	Maggie Strom		

Project Description	Project/Site Location (City/State)		Method of Shipment	Matrix Key
76		☐ RUSH – Additional charges apply ☐ Special Detection Limit(s) Date Results Needed	☐ Fed Ex ☐ UPS ☐ USPS ☐ Courier ☑ Client Drop Off Other	WW – Wastewater GW – Groundwater DW – Drinking Water S – Soil /Solid O – Oil P - Product M - Misc

Project Number	Project Manager Phone #	Project Manager Email	Purchase Order Number	Site/Facility ID #
4Y816.03		MStrom@tiogaenv.com		

Waypoint ANALYTICAL
2790 Whitten Road
Memphis, TN 38133
(901) 213-2400

Unless noted, all containers per Table II of 40 CFR Part 136.

A Cool < 10C Na2S2O3 (Micro Only)
B Cool <= 6C
C H2SO4 pH<2

17-285-0241
06510
10-12-2017
09:34:17
Tioga Environmental Consultants
Site 76

Date	Time	Sample Identification	Number of Containers	Matrix (Refer to Key)	(G)rab or (C)omposite	Required Analysis: Total Lead
10/10	1122	76 -1	1	DW	G	1
	1123	76-2	1			1
	1126	76-3	1			1
	1130	76-4	1			1
	1132	76-5	1			1
	1135	76-6	1			1

For Laboratory Use Only

Ice	Custody Seals	Lab Comments
Y/N	Y / N	

Blank/Cooler Temp

Sampled by (Name – Print): Eric Pace

Relinquished by: (SIGNATURE)	Date Time	Received by: (SIGNATURE)	Date Time
	10/11/17 1227		10/11/17 1227
	10/11/17 1318		
		J Smith 10.11.17	1318

Client Remarks/Comments

Safeguard LITHO USA Form No. 811-2/E15CS000385 07/15